

Amendments to the Claims

The following Listing of Claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (original): A method for concurrently processing digital video frames and high resolution still images in burst mode, comprising:

acquiring with high priority video frames and high resolution still images in burst mode from one or more image sensors;

storing with high priority the video frames and the high resolution still images in raw format in a memory during acquisition of the high resolution still images in burst mode;

processing with low priority the video frames stored in the memory using a video pipeline; and

processing with low priority the high resolution still images acquired during the burst mode using a high resolution still image pipeline, wherein the high resolution still image pipeline runs concurrently with the video pipeline.

Claim 2 (original): The method of claim 1, wherein the acquiring step includes acquiring the video frames and the high resolution still images in real time.

Claim 3 (original): The method of claim 1, wherein the storing step includes storing the video frames and the high resolution still images in real time.

Claim 4 (original): The method of claim 1, further comprising downsampling the high resolution still images to be inputted into the video pipeline.

Claim 5 (original): The method of claim 1, wherein the processing the high resolution still images step includes processing the video frames and the high resolution still images into a standard format by an image/video transcoding agent.

Claim 6 (original): The method of claim 1, wherein the processing the video frames step comprises: downsampling and demosaicing the video frames; and color correcting the video frames.

Claim 7 (original): The method of claim 1, wherein the processing the high resolution still images step comprises:

downsampling and demosaicing the high resolution still images using complex demosaicing algorithms; and
color correcting the high resolution still images using complex color correction algorithms.

Claim 8 (original): The method of claim 1, further comprising compressing the video frames and the high resolution still images.

Claim 9 (original): A joint video and still image pipeline for a video camera system, comprising:

one or more image sensors capable of concurrently acquiring with high priority video frames and high resolution still images in burst mode;
a sensor controller capable of storing with high priority the video frames and the high resolution still images acquired during the burst mode in raw format into a memory; and
one or more processors capable of concurrently processing with low priority the video frames and the high resolution still images acquired during the burst mode, wherein the video frames are processed using a video pipeline, and the high resolution still images are processed using a high resolution still image pipeline, and wherein the video pipeline runs concurrently with the high resolution still image pipeline.

Claim 10 (original): The joint video and still image pipeline of claim 9, wherein the high resolution still images are downsampled to be inputted into the video pipeline.

Claim 11 (original): The joint video and still image pipeline of claim 9, further comprising an image/video transcoding agent capable of processing the video frames and the high resolution still images into standard format.

Claim 12 (original): The joint video and still image pipeline of claim 9, wherein the video frames and the high resolution still images are acquired and stored in real time with high priority.

Claim 12 (original): The joint video and still image pipeline of claim 9, wherein the video frames and the high resolution still images acquired during the burst mode are processed with low priority.

Claim 14 (original): The joint video and still image pipeline of claim 9, wherein the processors are selected from a microprocessor, an application specific integrated circuit (ASIC), and a digital signal processor.

Claim 15 (original): The joint video and still image pipeline of claim 9, wherein the processors downsample, demosaic, and color correct the video frames.

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Claim 16 (original): The joint video and still image pipeline of claim 9, wherein the processors downsample, demosaic, and color correct the high resolution still images using complex algorithms.

Claim 17 (original): A computer readable medium providing instructions for concurrently processing digital video frames and high resolution still images in burst mode, the instructions comprising:

acquiring with high priority video frames and high resolution still images in burst mode from one or more image sensors;

storing with high priority the video frames and the high resolution still images in raw format in a memory during acquisition of the high resolution still images in burst mode;

processing with low priority the video frames stored in the memory using a video pipeline; and

processing with low priority the high resolution still images acquired during the burst mode using a high resolution still image pipeline, wherein the high resolution still image pipeline runs concurrently with the video pipeline.

Claim 18 (original): The computer readable medium of claim 17, wherein the instructions for acquiring include instructions for acquiring the video frames and the high resolution still images in real time.

Claim 19 (original): The computer readable medium of claim 17, further comprising instructions for downsampling the high resolution still images to be inputted into the video pipeline.

Claim 20 (original): The computer readable medium of claim 17, wherein the instructions for processing the high resolution still images include instructions for processing the video frames and the high resolution still images into a standard format by an image/video transcoding agent.

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Claim 21 (new): A method of processing image data captured by a digital video camera, comprising:

acquiring image frames from an image sensor;

in a non-burst-mode of operation, processing acquired image frames using a video pipeline to compress acquired images to a video resolution level and storing the compressed image frames;

in a burst mode of operation, storing acquired image frames in a memory at a still image resolution level higher than the video resolution level, wherein at least one of the uncompressed image frames is designated a still image frame and other uncompressed image frames are designated video image frames;

processing the still image frames stored in the burst mode of operation using a still image pipeline; and

processing the video image frames stored in the burst mode of operation using the video pipeline.

Claim 22 (new): The method of claim 21, wherein the compressed image frames stored in the non-burst mode of operation are stored in a continuous memory sequence in the non-burst-mode of operation.

Claim 23 (new): The method of claim 22, further comprising marking memory locations in the continuous memory sequence corresponding to the burst mode of operation.

Claim 24 (new): The method of claim 23, wherein image frames are stored in the burst mode of operation in the memory at locations separate from the continuous memory sequence.

Claim 25 (new): The method of claim 24, wherein marking the memory locations comprises inserting in the continuous memory sequence pointers to respective memory locations where image frames acquired in the burst mode of operation are stored.

Claim 27 (new): The method of claim 25, further comprising processing image frames acquired in the burst mode of operation using the video pipeline to generate a burst video sequence.

Claim 28 (new): The method of claim 27, further comprising inserting a pointer from the burst video sequence to a location in the continuous memory sequence where subsequent image frames are stored in the non-burst-mode of operation.

Claim 29 (new): The method of claim 21, wherein processing the video image frames stored in the burst mode of operation comprises generating a compressed sequence of image frames at the video resolution level from still image frames and video image frames stored in the memory in the burst mode of operation.

Claim 30 (new): The method of claim 29, wherein generating the compressed sequence of image frames comprises storing the compressed sequence of image frames at a memory location separate from where the image frames are stored in the non-burst-mode of operation.
